MARINE RECORD

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LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interests of Lake Carriers, and to improve the character of the service rendered to the public.

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A NATIONAL NAVAL RESERVE.

Naval officers and others interested in naval affairs have for years been directing the attention of Congress, through the Secretary of the Navy, to the fact that in time of war not one-half of the vessels of the navy could be manned on account of the lack of trained sailors. But no action has ever been taken in the matter, generally on account of the lack of influence. This defect, however, is said to have been strongly felt by President Roosevelt when he was Assistant Secretary of the Navy, and now that he is President it is said that he will devote part of his annual report to Congress to recommending the organization of a national naval reserve. Under the pressure thus brought to bear friends of the navy are confident that Congress will pass a bill creating a naval militia of national scope.

Such an organization would include all state naval reserves now in existence, or rather all members fit for service, and yachtsmen and sailors. The number joining this reserve would at first be about 5,000, but could be increased later on. The British navy has for a long period been reinforced by such an auxiliary, and there placed in the reserve. Each militiaman would be required to drill on board a warship for a time not less than one week nor more than a month each year. The training time could easily be arranged for the convenience of the reserve. For instance, sailors on the Great Lakes could be assigned to duty on a warship in southern waters during the winter when navigation would be closed on the lakes.

The movement in Cleveland is being promulgated by Lieutenant Commander Wirt and Lieutenants Dovale and Semon, of the Ohio Naval Reserves. A meeting of the members of the local naval reserve, yachtsmen, sailors, naval veterans of the Spanish-American war, and all others interested will be held at the Gatling Gun Armory, corner of Sibley and Hayward streets on Wednesday evening, November 13. Commander Wirt has received a communication from the adjutant general of the Ohio militia asking him to do as much as possible to further the movement in Cleveland and to obtain a list of probable recruits.

The following letter from the Secretary of the Navy to Governor Nash was included:

NAVY DEPARTMENT, Washington, October 19.

The Navy Department believes it desirable to form a national naval reserve, and with this end in view proposes, in case the measure should be adopted by Congress and meet the approval of the President:

The complete details of the project have not been definitely formulated. In general it contemplates the following provisions:

Enrollment of officers and men from naval militia, the merchant marine, yacht squadrons, and from those connected with a seafaring life. Compensation will be based upon pay of corresponding grades and rates in naval service, with traveling expenses to and from home to the vessels to which they may be ordered for annual tour of drill and instruction. Officers of naval reserve commanding merchant vessels to be permitted, under certain rules to fly a special flag.

Pending legislative action the department desires to ascertain the number of men who would be likely to consent to enrollment, together with the positions they would probably be able to fill. But no steps toward actual enrollment can be taken until after legislative action and the President's approval.

With this end in view the department invites the commanding officers of the naval militia of your state, through you, to furnish it with lists of men of their reorganization, or any others outside of it who may be considered suitable for enrollment in the national reserve, and who will probably consent to become members of such reserve, together with the grade or rating in which each would be willing to serve.

One requisite for the reserve would be either service during the Spanish-American war, three years' service in a naval militia organization, or a reasonable service afloat in merchant or other vessels.

Very respectfully,

JOHN D. LONG.
Secretary of Navy.

A RUSSIAN SHIP CANAL.

The Paris Bourse learns that the Russian government has sent a number of hydraulic engineers to the Caucasus for the purpose of tracing a ship canal between the Black Sea and the Caspian Sea. The average depth of the canal will be 21 feet, and from the Sea of Azoff to the town of Taganrog it will be a sea water channel. From Taganrog the new waterway will skirt the coast, being protected from the sea by thick stone walls as far as the mouth of the dead Donez River. It will then follow the old bed of this stream as far as Rostow. From Rostow it will use the Don River as far as Stanitza Manntsch, and from the latter place will take a bend in a southeasterly direction, via the ridges along the chain of lakes, to the fishing village of Lagansk on the Caspian. The cost of construction is estimated at 100,000,000 roubles, and the annual expenditure, including amortisation of capital, at 8,000,000 roubles.

LIGHTS AND FOG SIGNALS.

The annual report of the United States Light-house Board shows that at the end of the fiscal year there were under the control of the lighthouse establishment the following aids to navigation:

Lighthouses and beacon lights, 1,306; light vessels in position, 45; light vessels for relief, 8; electric lighted buoys in position, 11; gas lighted buoys in position, 91; fog signals operated by steam, caloric or oil engines, 179; fog signals operated by clock work, 222; post lights, 1,827; day or unlighted beacons, 752: whistling buoys in position, 77; bell buoys in position, 122.

FOR the past two years the Stirling Boiler Company at Barberton, O., have been working on a contract with the Cramp Ship Building Company of Philadelphia. Under this they will make all the boilers used in the vessels turned out by the famous builders. A large part of them are used in warships, and some of the vessels of the navy of the United States and other countries are being equipped. This has caused repeated additions to the plant, and it is now one of the largest in the country. A few days ago ground was broken for five new buildings, each 150 feet long and 65 wide. It will almost double the present capacity. There are reports that some new lines of work will be started, but officials of the company refuse to discuss the matter.

SHIPPING BOUNTIES.

The total amount of money distributed in bounty on the contstruction of both sailing vessels and steamships in France seems to have varied from a minimum of £80,735 in 1892 to a maximum of £205,833 in 1897, the amount devoted in 1900 being £196,000. The navigation bounties now exceed £452,000 per annum, and in 1898 were nearly £482,000. Construction bounties have little permanent effect in aiding the shipowner, if the experience of Messrs. Bordes, of Nantes, be taken as a fair example. This firm calculated that under the system prevailing they could afford to pay 20 to 25 per cent. more for French-built than for foreign built vessels. They found, however, that in 1893 the tender of the French builders was 34 per cent. higher than that of the British; whilst in 1896, when the effect of the law of 1893 was more fully felt in France, this extra cost had risen to no less than 82 per cent. France gives a speed bounty which has a possible maximum of £48,000 per annum, and also a subvention of £219,000 per annum. The German government is said to give no bounty on the Atlantic, but to pay a sum of £65,000 per annum for carrying western mails. The United States gives $4 a nautical mile for carrying trans-Atlantic mails. This works out about £2,500 a trip. There is also a monopoly of the carriage of parcels into the States. Great Britain spends £101,705 on her New York mails, paying by weight. Specially addressed letters are sent by German or American steamers. This privilege is largely used, and accordingly the two British lines do not get anything like £50,000 apiece for the 104 voyages a year which their contract with the postoffice entails. The Messageries have now some very fine vessels in opposition to the P. and O.'s Eastern trade, and receive a subsidy of £243,347 per annum for the Indo-China and Japan service. The Japanese have a fleet of twelve new ships—one built at Nagasaki, the others in Great Britain. Their speed is not great. It is said their subsidy works out at about £10,000 per trip, whilst the whole expenses of the voyage, including canal dues, is about £15,000. The German East Asian line was granted a subsidy of £85,000 per annum in 1895. The amount was raised to £160,000 in 1898 for a fortnightly service. On the Australian service the P. and O. and the Orient line each have an alternate fortnightly service, each company receiving £85,000 per annum. The competing French line, the Messageries Martime's receives £124,317 per annum for a monthly service. The more recent Norddeutscher Lloyd service has a subvention of £115,000 for a four-weekly service. According to Sir Thomas Sutherland, these figures work out for the P. and O. 2s 7d, for the Messageries 8s 4d, and for the Norddeutscher Lloyd 6s 8d per nautical mile. The Austro-Hungarian Lloyd is said to be making an attack on the trade of India. There is a subvention of 1s 2d a mile for services performed at a speed of over 10 knots. The mileage bounty in the Adriatic and Mediterranean is 4s at 10 knots, and 5s 11d at 11½ knots. On ocean voyages it is 4s 8d at 11 knots. The bounty is increased 10 per cent. for Autsrian built ships, and 25 per cent. if the vessels are one-half constructed of home materials. Though the government assistance has increased over sixfold in 10 years, the increase in tonnage shifted has barely increased 50 per cent.—Engineering.

IT has been telegraphed to Europe that Senator Hanna has obtained the assent of President Roosevelt and the Cabinet to the introduction of the shipping subsidy bill immediately Congress meets, and to give it a leading place in the legislation of the session. The navy increase proposals will follow.

CLEVELAND.

Special Correspondence to The Marine Record.

The Chase Machine Co. recently shipped one of its worm-geared, friction-driven engines to the order of the Pittsburg Coal Co.

The International Longshoreman's Association will give a grand ball at West Side Turn Hall, 858 Lorain street, Monday evening, November 18th.

Mr. Smith, foreman at the Lorain shipyard, has been promoted to the American Ship Building Co.'s yard at Buffalo. The other foremen at the yard gave him a banquet. Smith is a young man, and was graduated from a Cleveland high school but a few years ago. His rise in ship building lines has been rapid and he is well thought of by his present employers.

D. E. Ford of St. Louis, who is connected with the Standard Oil Co., being transferred to that interest from his former connection with John D. Rockefeller's fleet, the Bessemer Steamship Co., is on the lakes looking for boats which he wishes to buy and transfer to the oil trade out of the Texas fields. He is planning to buy several boats. No purchases have been made so far as Mr. Ford only wants suitable boats.

The following meteorological observations are furnished by the office of the U. S. Weather Bureau for the week ending November 6th: Prevailing wind direction during the week, southeast; highest velocity, 36 miles from west on November 3rd mean temperature for the week 45; highest temperature, 71 on October 31st; lowest, 24 on November 6th sunrise and sunset data computed for local time; November 8th sun rises 6:41, sets 4:47; Nov. 11th sun rises, 6:45, sets, 4:43; November 14th sun rises 6:49, sets 4:41.

The fact that the stockholders of the Clevland & Buffalo line must first decide whether they desire to increase the capital stock, concerning which there is no certainty until after the meeting in December, prevents any official statement as to what will be done with the proceeds of this stock sale in case the issue is declared. In the absence of any statement the presumption of those well informed that the ultimate desire is to purchase a block of stock in the Detroit & Buffalo boat line, still stands. This is especially patent since it is said that the company has no great desire now to buy other boats to increase the daily service between Clevland and Buffalo, the route being fully covered.

I learn from the Black Diamond that several important coal fields in Ohio are to be developed as soon as a new line of railroad is completed between a great lake port and the town of Phalanx, that state. The west side of the entrance to Fairport harbor is to be the lake terminal, and there a stretch of land suitable for docks will be put to the use for which nature has so splendidly fitted it. From Phalanx the connection with the mining territory of Jefferson county will be made over the Alliance & Northern and the Alliance & Southern. What is known as the Garfield-Morris syndicate is back of the project to build this road and construct the terminal docks. Before the Pittsburg & Western was absorbed by the Baltimore & Ohio, it is said that it was the intention to bring the product of the new coal fields over the Pittsburg & Western to Fairport, but the same arrangements could not be made with the Baltimore & Ohio."

CHICAGO.

Special Correspondence to The Marine Record.

The L. S. Starrett Co., Athol, Mass., announce that for the better service of the Western trade they have opened a store at 15 South Canal street, Chicago, Ill., where a full stock of Starrett tools will be kept. Capt. Al. T. Fletcher will be the manager of this branch.

The following meteorological observations are furnished by the office of the U. S. Weather Bureau for the week ending November 6: Prevailing wind directions for the week, N. W.; highest velocity, 42, S. W., October 30. Mean temperature for the week, 43; highest temperature, 75 on October 30; lowest, 16 on November 4.

PORT HURON.

Special Correspondence to The Marine Record.

Frank D. Jenks left Monday afternoon for St. Louis, Mo., where he will look after the elevator which is being erected in that city and also complete a few of the details of the plan for transporting the grain to the seaboard.

It is current gossip in Port Huron and Detroit marine engineering circles that engineers now employed on non-union boats together with those now out of employment are about to form a new and independent society, and be entirely separate and distinct from the M. E. B. A.

Burt Taylor, eldest son of Capt. Jas. Taylor of the steamer Toltec, was killed by the accidental discharge of a gun in his hands whilst out shooting ducks on Saturday morning near Marine City. The charge entered Mr. Taylor's leg below the knee, which it shattered so as to render amputation necessary. Owing to the enfeebled condition of the patient, occasioned by great loss of blood previous to the operation, he was unable to recover from the shock and died whilst being operated upon. Capt. Jas. Taylor, the bereaved father, is also manager of the Marine Transportation Co. of Marine City, Mich.

Something new, for people who now have small rowboats and want a boat with power, has lately been put on the market. It is a portable propeller operated by means of an electric motor, which is inclosed in a metal watertight case, dropped a few inches below the water line. It can be placed on any rowboats by simply replacing this machine instead of the old rudder. The wires from the motor run up the tiller posts and are used as tiller ropes. The batteries can be placed anywhere in the boat and the electric connections made by snap couplings on the gunwale. A rheostat, for governing the speed of the motor, is located on the top of the tiller post. The turning of the tiller post turns motor, screw and all, and this takes the place of the rudder. The action is much quicker than can be imagined.

When an iceberg towers 200 or 300 feet above the sea, it means that but one-eighth of its tremendous bulk is exposed. A berg which rises 200 feet above the Atlantic has a bulk of 1,400 feet under the sea. Captains give icebergs all the room they desire, as a collision would be as fatal as striking solid rock. Their proximity is generally indicated by a cooling of the atmosphere and the sea; but if the steamer and the wind are both approaching the berg during the night or in thick weather, the danger may not be seen until too late. As these icebergs travel south, their natural tendency is to melt, and this causes them to give out a clinking, tinkling sound as the motion of the sea knocks broken pieces against each other, which may be heard for a considerable distance. Icebergs often assume odd shapes. One recently reported by a skipper was formed exactly like a church. The square bulk formed the body of the church, while a spire of ice arose in the air to form the steeple on the front of the frozen edifice. An indentation seemed to form a main entrance.

Since the publication of the grain carrying scheme from Duluth to Leith, Scotland, which is being promoted by the Botsford, Jenks Co. backed by the Grand Trunk Railway system, there has been some comment on the location of the steel shipbuilding plant at St. Clair. J. E. Botsford, one of the promoters, was seen and asked whether or not the proposed plant had anything to do with the proposed change in location which the Jenks Ship Building Co. intends making. Mr. Botsford replied: "No, we have nothing to do with the Jenks company whatever. The plant which we will establish at St. Clair has nothing to do with that company. Our company is entirely independent. The citzens and officials of St. Clair have made us an offer and in all probability it will be accepted. We will construct our own boats to be used in carrying the grain from Duluth to Point Edward and the elevators in this city, from where it will be shipped to Portland, Maine." Work on the elevator at Point Edward which will be of steel, will be commenced at once. The elevator at St. Louis is about completed and the ones at Portland, Maine, and Leith, Scotland, are already constructed and being used. The promoters will have need for all the boats to be constructed at the yards. They are also figuring on another elevator, the point for which has not been selected but from the drift of the conversation which the reporter had it may be erected at Buffalo or some point near there, in order to store the grain which is taken past the port of Port Huron. At Port Huron boats drawing 20 feet of water do not experience any difficulty and they can be loaded to that depth.

DETROIT.

Special Correspondence to The Marine Record.

Low water at the Limekiln Crossing stopped navigation again this week and this is possibly due to the canal at Chicago.

The Botsford Elevator Company's elevator at Port Huron burned on Monday evening. The house was filled with grain and 150,000 bushels were destroyed. Both elevator and contents were fully insured.

Capt. Lansing H. Beach is now the U. S. engineer in charge of the eleventh light-house district, he having arrived at Detroit from Washington Saturday afternoon and assumed the duties of his new post, succeeding Lieut. Col. T. H. Handbury, Corps of Engineers, U. S. A.

The cable which formerly connected Pelee Island with the mainland by way of Pelee Point and the Dummy light-house has been taken up and another laid in a straight line from a landing place on the north shore about midway between Leamington light-house and Bells Point. Mariners are warned not to anchor in the vicinity of this cable.

During the month of October the mail boat at this port delivered 37,667 pieces of mail to vessels, and received 11,662 pieces. There were 2,926 boats passing, and to some boats of the largest size it is reported that as many as 100 letters have been delivered at one time. It should be stated though that so large a mail for one craft seldom occurs.

The following meteorological observations are furnished by the office of the U. S. Weather Bureau for the week ending November 5th: Prevailing wind directions for the week, W.; highest velocity, 31 miles west, on the 3rd; mean temperature for the week, 47 degrees; highest temperature, 74 degrees on October 30; lowest, 24 degrees on November 5th.

If you will forward to The Lee Injector Manufacturing Co. 99-103 Abbott street, your name and full address and, if convenient, name and number of your engineers' association, by postal or otherwise, they will mail you free of charge their valuable treatise on "Injectors, Its Uses and Abuses," how it is constructed, how to connect it, how to operate and care for it, with other valuable information useful to all engineers.

Information has been received through the Branch Hydrographic Office at Clevland, that the sunken wreck of the schooner Mt. Blanc lies in 17 feet of water about 1 mile east from the Bar Point light-house, northward of the regular track of vessels, but still in a bad place for small vessels which cut across the point. The masts and bow of the wreck are above water and there are 5 feet of water over the deck amidships. This wreck will be stripped and abandoned as a total loss.

A special commission has been appointed for the lakes to revise and perfect revenue cutter regulations, consisting of Captain W. C. Coulson, Captain T. D. Walker, First Lieutenant B. L. Reed, Chief Engineer J. H. Chalker, and First Assistant Engineer C. M. Green. Lieutenant Reed is attached to the Fessenden and is a Michigan man, his home being at Onsted. The work is very important and technical, and the appointment is a high honor to a young man like Lieutenant Reed.

Kick the vessel interests never so hard and continuously, the time is coming when a great international bridge will span the Detroit river. It is not possible that the commercial interests of the country can always be "held up" for the special benefit of those who own boats. But vesselmen have rights as well as other people, and one of these is that the bridge shall impede navigation as little as possible. A low bridge necessitates a draw, and when it is rememberd that during the season of navigation a vessel on the average passes this point once every seven minutes, it is evident tnat any such structure is out of the question. So a high bridge it must be, with a span that will obviate the necessity of piers in the navigable part of the river.

Information dated October 18, 1901, has been received from the government of Canada that the cable which formerly connected Pelee Island with the mainland by way of Pelee Point and the Dummy light-house has been taken up. In August, 1901, another cable was laid in a straight line from a landing place on the north shore about midway between Leamington light-house and Bells Point, 2,600 feet N. 76 degrees W. true (W. N. W. 5/8 W. mag.) from the light-house, in (approximately) latitude 42 degrees 01 minutes 55 seconds N., longitude 82 degrees, 36 minutes, 15 seconds W., to a landing on north shore of Pelee Island in (approximately) latitude 41 degrees, 48 minutes, 45 seconds N., longitude 82 degrees, 39 minutes, 00 seconds

W., distant 8,600 feet S. 36 degrees W. true (S. W. 5/8 S. S'lv mag.) from the light-house and distant 13 1-3 (15 1-3) miles S. 8 degrees 45 minutes W. true (S. 7/8 W. mag.) from the starting point. Mariners are warned not to anchor in the vicinity of this cable.

DULUTH-SUPERIOR.

Special Correspondence to The Marine Record.

Winter seems to have set in as the vessels arriving early in the week here were coated with snow and ice. It was possibly only a flurry, but not much more warm weather can be expected.

Sunken Wreck of Steamer W. M. Drake Westward of Whitefish Point.—Information has been received that the wreck of the steamer W. M. Drake lies about 1 7-10 (2) miles from the shore in about 35 feet of water and about 6 (7) miles westward from Whitefish Point, Michigan. This wreck has about 5 feet of water over the hull, and being near the course of steamers, care should be taken in passing this point as the wreck is not yet buoyed. Notice will be given when a buoy is established on this wreck.

C. Kimura, manager of the Yoshmahani collery in Japan, was at Duluth last week for an investigation of the iron ore mines of this country. He also examined the methods of handling heavy freight here and at other points on the lakes and will go to the coal mines of Pennsylvania after leaving Duluth and the mines. There have been here during the past year more than a dozen Japanese, managers of the leading mines and steel works of their country, getting pointers and information of methods of carrying on business under American ideas.

For a year or more J. J. Hill of the Great Northern, has been making efforts to ascertain if iron ore of Bessemer quality exists on the Pacific coast in sufficient quantities to permit the development of an iron and steel industry on a large scale. It is said he has been successful in finding what he wants in the Fort Steele district of British Columbia Numerous ledges have been found, of which nine are of immense size, running as much as 60 feet in width. At Bull river men have uncovered great masses of hematite lying exposed on the side of a mountain, three ledges being uncovered, one 60 feet wide. The surface indications show that another ledge extends 21,000 feet.

The following relating to Agate Bay or Two Harbors, Minnesota, has been furnished from the Branch Hydrographic Office, Duluth, under date of October 9: The extension of tne East breakwater has been built nearly up to full height, excepting a gap of 50 feet, where a crib was destroyed by a vessel and not yet replaced. This extension is now a prominent object and readily seen in ordinary weather. A white light is maintained throughout each night at the outer end of the extension on a mast 14 feet above Lake Superior The fixed red light at the outer end of the old portion of the breakwater was moved 35 feet eastward from its former position during the week ending June 15, 1901. Vessels can remain in the harbor during severe storms. Fair means are afforded vessels passing Two Harbors to test the accuracy of their compasses, owing to the fact that the streets of the village run in a true north-south direction, and the avenues true west-east. These parallel indentures can be easily distinguished in clear weather at a distance of 8 7-10 (10) miles from shore. From lakeward the alignment of the streets bear north true (N. 5/8 W. mag.) and the avenues west true (W. 5/8 S. mag.). On account of considerable (but vaguely known) local attraction near the shore, a ship should be 5 miles from land when using this convenience for compass correction.

The October report of the customs office of the receipts and shipments of Duluth harbor shows the usual heavy fall business. Lumber and ore shipments are somewhat heavier than the corresponding month a year ago, while merchandise receipts are several tons heavier. The items are now duly embodied in statistical returns, but the following will give an indication of the volume of business now being transacted:

Shipments—Clearances, 302; wheat, 1.779,916 bushels; corn, 1,200 bushels; oats, 19,600 bushels; flax, 669,000 bushels; flour, 286,407 barrels; feed, 1.430 tons; ore, 445,000 tons; lath, 259,000; shingles, 7,481,000; lumber, 49,285,000 feet; salt, 50 barrels; lime, 900 barrels: copper, 920 tons; ties, 19,000; merchandise, 2,780 barrels; total tonnage, 645,-904 tons.

Receipts—Entries, 300; coal, 129,381 tons; sugar, 5,650 barrels; salt, 36,738 barrels; cider, 510 barrels; vinegar, 765 barrels; liquor, 1 barrel; oil, 65 barrels; apples, 650 barrels; stone, 7,322 tons; cement, 1,796 tons; iron, 318 tons; fresh fish, 71,930 pounds; logs, 2,900,000 feet; ties, 7,800; merchandise, 9,116 tons; total tonnage, 162,477 tons. There is also a long list from Two Harbors within this district, as follows:

Receipts—Entries, 134; coal, 15,154 tons.

Shipments—Clearances, 134; ore, 715,184 tons; lumber, 1,000,000 feet; total tonnage, 717,184 tons.

BUFFALO.

Special Correspondence to The Marine Record.

Milwaukee charters called for 60 cents on coal here on Monday.

The Northern Steamship Co. has sent out notices that it will not receive westbound freight at Buffalo after November 25, or at Cleveland, Fairport and Detroit after Tuesday, November 26. All freight must be ready to place aboard the steamers on that date, and that not received on time will be forwarded all rail at shippers' risk.

Until recently the hydrographic offices of the lakes have been sending out bulletins of the work done on the various harbors and the improvements to harbors that might affect the channels. Now the chief of engineers has decided to take up this work and will bulletin each month the improvements that have been made during the preceding month. This is put out in book form, a complete description being given of each harbor and the existing works with a note as to the additions thereto. Reports of progress are appended each month.

EASTERN FREIGHTS.

Messrs. Funch Edye & Co., New York, furnish the RECORD with the following report of Eastern freights:

We are unable to report any change whatever in the freight situation, the available tonnage being still in excess of the demand. The Atlantic Coast cotton charterers continue securing boats at 25s net register to U. K. or continent on which basis further business could be effected. From the gulf several steamers, previously fixed, are offering for re-charter, but are experiencing difficulty in finding employment. There has been a little more demand for coal tonnage from this coast to continent and Mediterrancan ports, as the annexed fixtures will show. There has been practically no business in sail tonnage during the past week, and there is scarcely any inquiry for either spot or prospective vessels. Consequently rates should be considered nominal. Grain rates to Liverpool or London are at 2½ cents, Glasgow 4 cents, and Bristol 4½ cents, Hull 5 cents, Leith 6 cents.

JUPITER STEEL.

Jupiter steel, as the product is called, is an exceptionally high grade of cast steel which is made from wrought-steel scrap, with a liberal mixture of certain other metals during the process of melting. The manufacture is carried on under several patents granted to Andres G. Lundin, and the composition of the steel, the methods of manipulation in the furnace, the special materials and careful work in the molding, have resulted for the first time in the history of the art in the production of a cast steel which, in tests carried out at the navy yard at Boston, has proved to possess qualities of strength and ductility equal to those of forged steel. In tests recently carried out by the government this steel has shown a tensile strength of 67,300 pounds to the square inch and an elongation of 25 per cent. in 8 inches, while in the bending tests a one-inch-square bar of this cast steel was bent cold through an arc of 93.5 deg. without fracture. As a result of these excellent qualities, Jupiter steel is finding a wonderfully wide range of usefulness in the industrial arts. Thus, the shipwork which is being done for the government and private shipbuilding firms include the rams for the new United States battleships Rhode Island and New Jersey, each of which castings will weight 43 tons, and the stern frame keel and sternpost for the same vessels. Other castings include horseshoes for marine engines, engine thrust bearings, knees, and many small parts ordinarily made of forged steel for the interior construction and fittings of ships, engine beds, engine cranks, cross-heads, gear wheels, etc. The castings for the battleships Khode Island and New Jersey alone will equal in weight over a million pounds.

LETTERS AT DETROIT MARINE POST OFFICE.

To get any of these letters, addresses or their authorized agents will apply at the general delivery window or write to the postmaster at Detroit, calling for "advertised" matter, giving the date of his list and paying one cent.

Advertised matter is previously held one week awaiting delivery. It is held two weeks before it goes to the Dead Letter Office at Washington, D. C.

Arenson Byron, Elphicke
Armursen Henry, Paris
Boughner Nellie
Blauvelt D. W
Coyle Chas.
Dave E. F., Siemens
Dooley France, Tower
Eason Robt.
Eastcott John
Fiebach Henry, Zenith City
Flore Wm. S
Farchon Fred, Livingstone
Fuller M. E.
Generous Paul R.—2, J. Owen
Graham David
Greene John
Gunn C. B., Eads
Horton S.—3, Progress
Holahan Jos., Runnels
Hastings J. B., Seattle
Hoover Chas.
Harris Robt D.
Johnston Frank, Whitney
Johnson John
Klein Mrs. Will
King Capt. G. N.
Lyman Lewis, C. B. Jones
Logue Dave O., Eads
Lindberg Ed., Magnetic
Markle Scott
Morton Geo.
Mason Frank, Eads
Meads, Thomas, Colonel
McLeod W.—2, Hanscomb
McCarty Emmett
McDonald Eddie
McLaughlin Jno., Williams
O'Shea W. J.
Rose, Frank W.
Rand John, Ida E.
Rockefeller Frank
Smith Howard N., Rees
Sheriff Frank, Bielman
Shaw Wm., Nimick
Smith Burt E., Columbian
Spring, Mich., J. W. Moore
Sauve J. B., Tyrone
Stevenson Robt., Lockwood
Slater Fred
Smith Firman
Stone Freeman
Woodrow Geo., Progress
Weber John
Wybrand Herb't, Angeline
Wilson Chas W.
Wesley Frank, Roman

F. B. DICKERSON, P. M.

LUNAR INFLUENCES.

The Monthly Weather Review published by the Department of Agriculture, has the following to say relative to lunar influences: "A new journal, now published in St. Petersburg, is devoted to the exploitation of the lunar influence and seems to assume that it must necessarily be large and important. It has lately printed a general review of the literature of the subject, but as is generally well known, every exact investigation throws doubt upon the subject whether the moon has any importance in meteorology. Perhaps the moon ought to influence the weather—but it doesn't. The controversies over this subject, waged during the 18th century, sobered down during the 19th century to the genral conviction that the moon's influence is so slight that we really ought not to waste our time discussing it so long as the solar influence claims our undivided attention. It is to be honed that during the 20th century meteorologists will give increasing attention to the solar heat, atmospheric moisture, the rotation of the earth, and other important matters that enter into dynamic meteorology and will not revive a useless discussion as to the influence of the moon on the weather. Its real, but very slight. influence on the semimonthly atmospheric tides seems to be a matter of interest to mathematicians rather than to meteorologists. The excellent review of our knowledge of the lunar influence, given by van Bebber in the first chapter of his Handbook of Practical Meteorology, ought to suffice for the present."

Deputy Consul-General Hanauer reports from Frankfort that in consequence of the low rates for ocean freight (4s., or 96 cents, per ton on grain from United States ports to Europe), Hamburg steamship lines, it is said, will import American coal. According to Hamburg papers, a shipment of American coke is now bound for that port. A Russian journal calls attention to the fact that a steamship laden with American coal has arrived at Cronstadt, which is all the more noteworthy as coal imports from England and Germany have declined considerably of late.

The Joseph Dixon Crucible Co. has decided to make important additions to their plant in Jersey City, N. J., thereby greatly increasing the capacity of the pencil and crucible departments, which have been under special pressure. With this end in view property has been acquired on Railroad avenue, adjoining its premises, and after the structures occupying the ground are removed, and which is now under way, work on the new buildings will be commenced at once. Plans have been prepared for four-story and basement buildings, and it is anticipated the new machinery will be installed and the entire equipment in operation shortly after the first of the year.

A RULE FOR DETERMINING BARRATRY.

Marine insurance puzzles generally are questions of fact rather than of law, questions as to who has promised whom and what. A case cited by the MARINE RECORD (107 F. 516) illustrates how simple problems of fact can be beclouded by floods of abstract ideas, bewildering nomenclature, disarranged multitudes of persons and things tumbled together followed by the loosely dictated opinion of some tired judge.

The "retrograde movement" of Rear Admiral Schley has suggested giving to the readers of this a rule of the great emperor of a nation noted for its juridical acumen in things maritime, and by which rule the propriety of questioned conduct of masters and seamen may be judged. "Disobeying the lawful orders of a superior officer" is prohibited to naval mariners by Art. 4, sec. 1624 R. S., on penalty of death; so that a breach of such a statute, being a willful violation of law," is what the Supreme Court calls barratry (168 U. S. 124). A maxim applicable to Schley's alleged disobedience, and to all marine barratry, was cited by the present American ambassador to England, Joseph H. Choate, in a famous case, and has been apparently, as it should be certainly, adopted by the nautical department of the United States government. It is necessary to ask, first, whether it has been overruled in a later naval case, that of an officer, C., charged with disobedience before a naval court-martial at Mare Island, Cal., in April, 1889.

Specification I stated that C., while "awaiting orders" in New York, on September 8, 1888, "received a lawful order from the then Acting Secretary of the Navy, Commodore H.," "directing him to proceed to" California *for duty on board the U. S. store-ship 'Monongahela,'* which vessel was then being fitted for service on a foreign station; and having proceeded in obedience to said order as far as Cincinnati, Ohio, and having, on account of ill health, been authorized to delay proceeding to California until able to undertake the journey, did, "on Dec. 8, 1888," report at the nearest "naval hospital" at Washington, D. C., "for medical treatment." (To this he was admitted on a certificate from Dr. Rixey, President McKinley's physician, the next Surgeon-General of the Navy.)

According to Specification 2, C., having remained in the Washington hospital until Dec. 21, as, in the opinion of its surgeons, unfit for a journey to California, and having finally "been reported by Medical Inspector A. A. Hoehling, in charge of said hospital, as fit for duty, and having on December 21, 1888, "received an order from the Secretary of the Navy directing him to proceed at once" "as directed in" his "original orders of September," "and having in obedience to said orders proceeded to Los Angeles, Cal., and in a letter from that place requested a revocation of the *orders assigning him to duty on board the 'Monongahela,'* and *being physically able to travel,* did, nevertheless, fail to proceed to Mare Island, in obedience to the orders aforesaid," etc..

It will be observed that these orders required C. to travel to Mare Island for a stated purpose; and did not authorize him to put the government to expense of mileage of "travel under orders" otherwise. Sickness incurred in "proceeding at once" from a hospital in midwinter and resultant effects from "exposure in the line of duty" in the malarial tropics and in Alaska, made C. unable to perform that duty which was the object of his journey from Washington to Mare Island. The duty which took its place—of reporting conditions necessitating a modification of orders before subjecting the government to further, useless "mileage" expense—was faithfully fulfilled *en route.* (Navy Reg. of 1876, p. 81, par. 9; sec. 1624 R. S., art. 8, clause 15). C. reported to the Navy Department that ill health was the cause of his delay, that this incapacity resulted from exposure received in the line of duty, and that it would disable him from performing the service at Mare Island, to which alone he was ordered, fortifying all this with the proper physician's certificate. Upon the receipt at Los Angeles of further instructions authorizing him to put the government to mileage expense though unable to fulfill the employment for which the outlay was allowed, he cheerfully and voluntarily continued his journey to the end. His reports were true and the Navy Department never charged the contrary. Where C. sought to introduce evidence of the truth of them before the court-martial, the evidence was rejected on the ground that it was "immaterial." So it was. The Secretary of the Navy had ruled, through his signed "specifications," that "being physicially able to travel," C. *should* have put the government to expenditure that was, or might have been, useless—the mileage of continued progress to Mare Island and the mileage of orders home or to sick leave. The subordinate court-martial obediently followed that ruling, one of the members remarking that they were commanded to try those particular charges. C. was convicted on the sole ground that mere travel was the object of his journey and not the duty at the end of it.

The Navy Department, however, has since ruled to the effect that this was an *ex post facto* edict of the secretary, and void as such.

In the summer of 1899 the Court of Claims, referring to this case, called upon the Navy Department for a reply to these interrogatories:

"1. State whether the following, entitled in the Fitz-John Porter proceedings 'the Napoleonic rule in respect to obedience and discretion' is a maxim of practice in the navy. 'A military order exacts passive obedience only when it is given by a superior who is present on the spot at the moment he gives it. Having then knowledge of the state of things, he can listen to the objections and give the necessary explanations to him who should execute the orders.'

"2. If a commissioned officer of the navy, being in the eastern part of the United States, is ordered to California to begin a three years term of sea-service on the Pacific, and is aware that his health is such that he cannot begin that service, state whether it is his military duty to report that fact to the government before subjecting the latetr to a useless mileage expense, and whether he would be derelict in his duty if he did not do so. In the same manner, if he perceives that his orders will involve the violation of any act of Congress, whether it is not his duty to report that fact to the Navy Department before he proceeds to obey them. If the record of proceedings against C. does not show that he fully performed his duty in this respect, and that he voluntarily proceeded from Los Angeles to Mare Island, Cal., and reported for duty there, when the Secretary of the Navy, after fuller information of the facts, again ordered C. to proceed to Mare Island, comply with the call of this court for a certified copy of that record."

The reply to these interrogatories signed by the Secretary of the Navy held that there was no "information or papers" on "the files of the department" contradicting the Napoleonic rule cited by Mr. Choate, the President's approval of it in the Fitz-John Porter case or denying that the ordered officer's duty was as outlined in the call. This principle of France's sea code and upon which the Commander-in-Chief of the Navy acted in restoring the dismissed general, must therefore be regarded as law in the United States.

The charges in this case, perfunctorily signed by the secretary, were drafted by a Judge Advocate General who died in an insane asylum three years later. He had reason for wishing C. out the navy. C. had challenged his competence on grounds which have since received judicial approval. The charges in this case were so drawn as to bewilder the court-martial and prevent a correct decision. Thus, when C. reached Los Angeles in January, 1889, the Navy Department had given "instructions" to the effect that he must not subject the government to mileage if his ill health disabled him from going to duty, a delay until December 21, 1888, in obeying orders issued September 6, 1888, having been directed on that account. For paying his own fare to the nearest (Washington) hospital, from Cincinnati, he was accused of violating a declination to grant him *orders* (and thus mileage) to the more remote Brooklyn hospital. It was the United States that put in evidence that his retarded journey to Mare Island was due to physical disability incurred in the line of duty, "bronchitis" and threatened "consumption"; that the southern detour and delayed movement via New Orleans and Los Angeles was made only "with" the express or implied "permission" of the Navy Department; that the lattter was at once notified (Dec. 25) by C. of his intended delay, its exact cause, and his postoffice address en route; that it sent him no orders rebuking him or instructing him to act differently until after a letter came from C. supposed to be "disrespectful"; and that the approval of his course was continued even while C. was believed to be (so it was declared)delaying at New Orleans while in reality he had traveled on to Los Angeles "without notice" of this further evidence of his desire to obey of which intent, like other honest men, he made no boast. All this was evidenced, or admitted, by the Navy Department itself. (See record, case 21,216, Ct. of Cl.)

When charges are once signed by a secretary, his respecting subordinates, the court-martial members, are loath to rebuke their superior by declaring his "approved" charges unfounded. And when, in turn, such court has compliantly registered a "finding" of "guilty," its convenor is disinclined to admit that all is the result of carelessness, haste and inattention to the rghts of those under hm. Two of the seven members of the court recommended C. to clemency, because C., although "in arrest from January 26 until March 28" (when he was ordered to report for trial) did not, "until March 28, receive any notification he was to be brought to trial or any statement of the offenses for which he was to be tried." That such a fact could exist and only influence two of seven members to declare it unjust, shows the character and intelligence of that court martial. The Napoleonic rule for determining barratry could not have received damage even if such a court-martial and such a secretary did collide with it. But there was no collision.

GEORGE F. ORMSBY.

Washington, D. C.

MONTHLY SHIPBUILDING RETURNS.

The Bureau of Navigation reports 150 vessels of 45,547 gross tons were built in the United States and officially numbered during the month of October, 1901, as follows:

	WOOD.				STEEL.				TOTAL.	
	SAIL.		STEAM.		SAIL.		STEAM.			
	No.	Gross.	No.	Gross.	No.	Gross.	No.	Gross.	No.	Gross.
Atlantic and Gulf	84	5,066	29	2,105	1	3,374	1	176	115	10,721
Porto Rico										
Pacific	4	1,903	5	574			8	31,510	9	2,477
Great Lakes			5	208					13	31,718
Western Rivers			13	631					13	631
Total	88	6,696	52	3,518	1	3,374	9	31,686	150	45,547

The largest steel steam vessels included in these figures are:

	NAME.	GROSS TONS.	WHERE BUILT.	OWNER.
	Christopher	4,260	W. Superior, Wis.	Milwaukee Tug Co.
	Chicago	3,195	Buffalo, N. Y.	Edward Smith
	Frank T. Heffelfinger	4,897	Chicago, Ill.	Peavey S. S. Co.
	Frederick B. Wells	4,897	" "	" " "
	Henry Steinbrenner	4,719	Pt. Huron Mich.	H. Steinbrenner
	William S. Mack	3,720	Lorain, Ohio	Amer. Ship Bdg. Co.
Sail	William P. Frye	3,374	Bath, Me.	Arthur Sewell & Co.

Shipping—Due Diligence—Harter Act.—Due diligence to make a vessel seaworthy at the commencement of her voyage, which will entitle the carrier to the exemptions given by section 3 of the Harter act, must be exercised in the work itself, and not merely in the selection of agents to do the work, and must be adequate to accomplish the result intended, except as to latent defects not discoverable by the utmost diligence. Due diligence was not exercised to make a lighter seaworthy and fit for the business in which it was employed, where the seams were so improperly calked that they opened and admitted water into the hold when the boat was rocked by a slight swell from a passing steamer; the defect being one which could have been discovered by examination. Nord-Deutscher Lloyd vs. President, etc., of Insurance Co. of North America, 110 Fed. Rep. (U. S.) 420.

THE GRAND TRUNK DEAL.

The projected spreading out of Port Huron as a lake terminal will be far reaching and will affect larger interests than at first supposed by those who have not been on the inside of the transaction. The eight new steamers which Messrs. Botsford, Jenks & Duncan will build at the new shipyard to be established at St. Clair will enable the Grand Trunk to enter into active competition with the New New York Central and Erie railroads' lake connections.

It will also enable them to go into the field for the through freight business of the Canadian-Atlantic lines, which operate through its connections at Owen Sound. For many years the lake connections of these railroads have been good paying properties for the railroads and were big feeders in the export grain trade.

The Grand Trunk is going after some of this business, and the announcement that Jenks, Botsford & Duncan of Port Huron had closed a long term contract to carry freight for the Grand Trunk to Port Huron began to open the eyes of the old lines. In connection with the new boats, the railroad will operate a 1,500,000 bushel elevator at Point Edward to receive the grain brought down by the new boats when they are in commission next summer.

The new shipyard at St. Clair will be in operation by March 1, 1902, according to Mr. Jenks, and, while it will not be large, having berths for but two boats at a time, it will be up to date in every respect. The first boat will be named the J. E. Botsford, will be 405 feet over all, 50 feet beam and 30 feet deep. Several entirely new features will be added to the new vessels, chief among them a hopper bottom. Accommodations for a limited number of passengers will be made.

The plans have been prepared under the supervision of Prof. W. F. Durant of Cornell University, who has been appointed consulting engineer of the new concern.

If the J. E. Botsford proves satisfactory three other vessels are to be built after her patterns, while the total number now projected is eight.

EXPERIMENTS ON BRONZE AT HIGH TEMPERATURES.*

Owing to the very general employment of superheated steam it has become a question of some importance to determine at what temperature bronze is reliable in engine construction. To this end the Verein Deutscher Ingenieure instituted a series of experiments, under the direction of Messrs. Habere and Menzel, with twenty-five bronze rods (supplied from the Imperial Dockyard at Kiel) 8.66 in. in length and 0.48672 sq. in. in section, and composed of 91 parts copper, 4 parts zinc, and 5 parts tin. A previous experiment with a set of five rods of similar dimensions and composition gave the following average: Breaking weight per square inch, 8.47 tons; elongation at moment of rupture 36.7 per cent. on 7.874 in.; decrease in sectional area, 47.4 per cent. at a temperature of 20 degrees C. (68 degrees F.)

This paper furnishes a precise account of each of the tests made (four at each temperature), and is furnished with elaborate tables and diagrams, the result of which are summarized as follows, taking the results obtained at a temperature of 68 degrees F. as unity:

Relative Values at—	212° F.	392° F.	572° F.	752° F.	932° F.
Breaking strain	1.01	0.94	0.57	0.26	0.18
Elongation	0.98	0.96	0.32	....	....
Decrease in section	0.91	0.93	0.31	....	....

From this it is evident that bronze of the composition here experimented on may safely be employed for valve seats, pipes, etc., at a temperature of from 392 to 572 degrees F., but not above. Bronze of a different composition may perhaps differ in this respect; further experiments, in fact are at the present time being carried out. Meanwhile it seems evident that bronze cannot safely be used with superheated steam, which is never less than 572 degrees F. temperature.

*Inst. C. E.: Foreign Abstracts.

DEPUTY CONSUL-GENERAL HANAUER reports from Frankfort, September 8, 1901: In consequence of the low rates for ocean freights (4s., or 96 cents, per ton on grain from United States ports to Europe), Hamburg steamship lines, is said, will import American coal. According to Hamg papers, a shipment of American coke is now bound for that port. A Russian journal calls attention to the fact that a steamship laden with American coal has arrived at Cronstadt, which is all the more noteworthy as coal imports from England and Germany have declined considerably of late.

INSPECTOR OF HULLS.

STEAMBOAT-INSPECTION SERVICE. DECEMBER 3-4, 1901.

The U. S. Civil Service Commission announces that on December 3-4, 1901, an examination will be held in any city in the United States where postal free delivery has been established, for the position of inspector of hulls, in the steamboat-inspection service.

The examination will consist of the subjects mentioned below which will be weighted as follows:

Subjects.	Weights.
1. Letter writing (third grade)	10
2. Arithmetic	10
3. Hull construction	20
3. Pilot rules and inland navigation	20
5. Lifeboats and liferafts	10
6. Sea navigation	10
7. Experience	20
Total	100

Information relative to the scope of this examination may be found in section 158 of the Manual of Examinations revised to January 1, 1901. Age limit, 25 to 55 years. The examination will be divided as follows: First day, seven hours; second day, four hours.

From the eligibles resulting from this examination it is expected that certification will be made to the position of inspector of hulls, Steamboat-Inspection Service, Norfolk, Virginia, at a salary of $2,000 per annum, and to other similar vacancies as they may occur.

This examination is open to all citizens of the United States who comply with the requirements and desire to enter the service. All such persons are invited to apply and applicants will be examined, graded and certified with entime impartiality and wholly without regard to any consideration save their ability as shown by the grade attained in the examination. Preferences will be given to eligibles who are residents of the steamboat-inspection district in which the vacancy exists, and in the absence of such eligibles who have license for the waters of the district in which the vacancy exists, regardless of the local residence of the eligibles.

Persons who desire to compete should at once apply to the U. S. Civil Service Commission, Washington, D. C., for a copy of form 1087 and a copy of the Manual of Examinations. The application should be properly executed and promptly forwarded to the commission. The regulation requiring that applications be filed at least ten days prior to the date of the examination will be waived in accepting applications for this examination.

October 30, 1901.

STATEMENT OF THE VISIBLE SUPPLY OF GRAIN.

As compiled by George F. Stone, Secretary Chicago Board of Trade, November 2.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Buffalo	2,806,000	1,027,000	791,000	19,000	432,000
Chicago	5,172,000	7,069,000	1,607,000	734,000	21,000
Detroit	623,000	284,000	23,000	129,000	24,000
Duluth	5,494,000	488,000	306,000	270,000	857,000
Fort William, Ont.	1,386,000	.....	.....	.....	.....
Milwaukee	135,000	74,000	472,000	41,000	140,000
Port Arthur, Ont.	225,000	.....	.....	.....	.....
Toledo	521,000	532,000	1,042,000	363,000	9,000
Toronto	43,000	.....	1,000	.....	42,000
On Canals	448,000	77,000	554,000	.....	235,000
On Lakes	1,194,000	491,000	505,000	.....	185,000
On Miss. River	.....	.....	.....	.....	.....
Grand Total	41,192,000	12,900,000	8,099,000	2,044,000	2,386,000
Corresponding Date, 1900	60,032,000	7,983,000	12,986,000	1,100,000	3,617,000
Increase for week	558,000	.....	.....	91,000	.....
Decrease " "	.....	736,000	148,000	.....	434,000

While the stock of grain at lake ports only is here given, the total shows the figures for the entire country except the Pacific Slope.

Marine Insurance—Petroleum Average.—Certificate for marine insurance contained an exception of "particular average unless vessel be stranded," etc. The policy provided that the insurer should not be liable for leakage of liquids, unless occasioned by stranding. The vessel containing the petroleum became disabled at sea, and in being towed to the nearest harbor became stranded and nounded for half an hour on a coral reef, causing excessive damage to the bottom. Its cargo on the first warehousing, pending the repairing of the vessel, appeared to be in good condition, and experienced witnesses testified that the damage was caused by contact with sea water, detention in a tropical climate, and frequent handling. Held, that the loss by leakage was caused by stranding, within the policy. De Farconnet et al. vs. Western Ins. Co., 110 Fed. Rep. (U. S.) 405.

SHIPPING AND MARINE JUDICIAL DECISIONS.

(COLLABORATED SPECIALLY FOR THE MARINE RECORD.)

Towage—Liability of Tug for Injury of Tow—Striking Drawbridge.—A tug held in fault and liable for an injury to a schooner by striking against the abutment of a bridge while the tug was towing her through the draw.—The Belle, 110 Fed. Rep. (U. S.) 451.

Abandonment of Ship—Interest of Insurers.—The abandonment of a ship to the insurers for a constructive total loss vests the insurers with the entire ownership, together with all its incidents, notwithstanding the insurance may not have been for its full value. Mason et al. vs. Marine Ins. Co. et al., 110 Fed. Rep. (U. S.) 452.

Marine Insurance—Limitations of Actions—Waiver.—Any conduct of an insurer which tends to mislead the insured, and cause delay in prosecuting his claim beyond the time limited in the policy, amounts to a waiver of the conditon. De Farconnet et al. vs. Western Ins. Co., 110 Fed. Rep. (U. S.) 405.

Requirements of Insurer—Waiver of Limitation.—Subsequent dealings with the insured, in which the insurer recognizes the continued validity of the policy, and requires further action on the part of the insured, involving labor and expense, amount to a waiver of the conditon in the policy limiting the time for prosecuting claims. De Farconnet et al. vs. Western Ins. Co., 110 Fed. Rep. (U. S.) 405.

Shipping—Breach of Charter—Damages Recoverable.—The owner is entitled to recover from a charterer the amount necessarily expended by the master in trimming a cargo after loading, made necessary by the fact that the ship was loaded at a place where she could not "always be afloat," as required by the charter. Bacon vs. Ennis, 110 Fed. Rep. (U. S.) 404.

Formal Abandonment—Waiver.—Where the insured under a marine policy wrote the insurer, inquiring "whether we must make an abandonment by judicial act, or if our present letter, expressing an intent to abandon, will do?' the latter's answer, ignoring the informal tender, and denying any liability under the policy, excuses a delay in making the formal tender. De Farconnet et al. vs. Western Ins. Co., 110 Fed. Rep. (U. S.) 405.

Risks Covered—General Average.—Lieblants shipped petroleum, covered by marine insurance against sea perils, on board a bark which became disabled at sea. Held, that the general average charges assessable on the oil, and for which the insure was liable under the policy, included the decree for salvage, with costs and expenses, inward pilotage, towage, ship's new material used up in the salvage work, etc. De Farconnet et al. vs. Western Ins. Co., 110 Fed. Rep. (U. S.) 405.

Law Governing Contract—Stipulation for Exemption from Liability for Negligence.—A provision in a ticket, issued by an English steamship company to a passenger in the United States, for passage from an American to an English port, that the contract shall be goverened by an English law, is ineffectual to render valid a stipulation exempting the company from liability for the negligence of its servants in respect to the passenger's baggage, which is contrary to the public policy of the United States. The New England, 110 Fed. Rep. (U. S.) 415.

Liability for Loss of Baggage—Validity of Limitation.—Conceding the right of a carrier to stipulate for a reasonable restriction of its liability for loss of a passenger's baggage, a provision limiting such liability to $50.00, in a ticket for first-cabin passage across the Atlantic, in a first-class steamship, is not reasonable, and will not be enforced, especially where the provision was not called to the attention of the passenger, and the loss resulted from theft or conversion by the carrier's servants. The New England, 110 Fed. Rep. (U. S.) 415.

Carriers of Passengers—Loss of Baggage—Evidence.—Where a passenger's trunk, which when delivered by her to a steamship company contained her wearing apparel, could not be found at the end of the voyage, and when afterwards forwarded to her was empty, and the company refused to give any explanation, and when sued for the loss introduced evidence as to its care or treatment of the trunk while in its possession, the court is justified in finding that it was broken open and rifled by the company's servants. The New England, 110 Fed. Rep. (U. S.) 415.

Seamen—Act for Protection of American Seamen—Construction and Scope.—Section 24 of the act of December 21, 1898, "to amend the laws relating to American seamen, for the protection of such seamen, and promote commerce" (30 Stat. 763), which forbids the payment of a seamen's wages in advance to himself or to any other person, notwithstanding its further provision that "this section shall apply as well to foreign vessels as to vessels of the United States, * * * provided that treaties in force between the United States and foreign nations do not conflict," does not apply to seamen, although American by birth or naturalization, who regularly ship upon a British vessel and thereby become, for the time being, British seamen. The Eudora, 110 Fed. Rep. (U. S.) 430.

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INTERNAL COMMERCE.

The Bureau of Statistics, in its summary of internal commerce for September, states that the average weekly stocks of wheat at Duluth, representing the Northwest, were not half so large as during the last September. At Minneapolis the average weekly stocks were 36.2 per cent. lower than in September, 1900.

The trunk-line movement of flour from Chicago and Chicago points during four weeks of September reached an average of 90,842 barrels. For the first time in the year one week's grain movement fell below a million bushels.

On the Great Lakes the shipments of flour, coal, minerals, including ore; lumber, logs, and unclassified freight, were larger this September than last September. Grain shipments decreased from 22,492,506 bushels to 17,598,487 bushels. The Sault Ste. Marie canals report 4,133,056 tons of freight for September, 1901, and 3,411,453 tons for Sepetmber, 1900, as having passed in both directions. The season's traffic is nearly half a million tons greater than last season's.

The season's receipts of five kinds of grain at Buffalo show that there has been a considerable falling off compared with 1900 and 1889. The season's flour receipts, by lake, are still above those of 1899 though slightly below the receipts of 1900. Shipments by Erie Canal from that point for the season to September 30, 1901, were 11,993,247 bushels, and for the season of 1900 to that date were 10,726,235 bushels. Canal shipments of five principal cereals have made some gain, while railway shipments of grain from elevators at Buffalo have fallen from 79,486,755 bushels for the first three-quarters of last year to 66,447,024 bushels this year. The number of boats cleared by canal this season to September 30 has been 2,359, being the smallest number on record since 1885. The tonnage for the season to September 30 was 2,455,747, covering the entire State system of canals.

EXPORTING COAL.

Dr. Weigand, general manager of theNorth German Lloyd Steamship line, is of opinion that American coal is destined to find a considerable market in Europe, in time. He says: "While American coal will never cut any considerable figure in north European markets, it may be accepted with certainty that the export of such coal to the entire Mediterranean will make very material progress; and the time will come when, for example, in Genoa and Port Said, the principal coaling stations of the Mediterranean, American coal will appear in the sharpest competition with English coal. The same will occur with regard to all the harbors of the South American eastern coast, and in Central America."

There ought to be no good reason now, of a purely commercial nature, why our coal should not supercede English coal everywhere in South and Central America. And this will be much more the case once we have the advantage of an isthmian ship canal. The quality of American coal is high. It can be, with proper enterprise expended on the business, gotten to the South American ports for one-half the freight cost the English exporter pays. And this means that our coal can take the South American and Central American markets whenever our coal operators please; but really it is no object for them to sell much coal out of their own country. It is very little more that they can do, after supplying the tremendous demand for manufactures and domestic use.

And at best the export of so crude and cheap a material as coal cannot, in the long run, be profitable to the country. England has been, for a long time, doing a large coal export trade, and her farthest-sighted and most scientific tsatesmen have all along realized that this trade was robbing the country of that which would, at no distant date, be very sorely needed at home. The profit on exporting coal is very small, at best; and when we realize how it tends to raise domestic prices of fuel, and thus burden the masses and the manufacturers, the profit is turned into a substantial loss.

THE COST OF POWER.

The journal of the Franklin Institute is publishing a very exhaustive paper on the cost of power, taken from thesis presented for the degree of master of mechanical engineering, Siblev College, Cornell University, by Clyde D. Gray. There are many references to authors and authorities, who have investigated the subject, and abstracts from reliable data on the production, cost and utilization of power by different methods. In his study of "Man Power," the writer quotes Dr. Thurston, Box, Rankine and D. K. Clark. Rankine gives the following table for the power of a man doing different kinds of work:

	Hours Per Day.	Horse-Power.
Raising his own weight up stair or ladder.....	8	.1320
Hauling up weights with rope, lowering it empty	6	.0545
Lifting weights by hand.....	6	.0440
Carrying weights up stairs, returning unloaded.	6	.0337
Shoveling earth to height of 5 feet 6 inches.....	10	0142
Pushing or pulling horizontally	8	.0965
Turning a crank or winch.....	8	.0820
Working a pump	10	.0600

Assuming .1 H. P. as the power of the average man, then, if labor can be procured for $1 per day of ten hours, a horse-power hour will cost $1; a horse-power year, assuming 3,000 hours per year, will cost $3,000, which is greatly in excess of any other kind of power. Another disadvantage of human power is that it cannot be worked continuously, but must have long periods for rest and recuperation. It also requires a large amount of space for a small amount of power as compared with other sources of power.

In "The Animal as a Machine," Dr. Thurston gives the thermo-dynamic efficiency of a man as 20 per cent., which is about the same as that of the best steam engine. In respect to weight per horse-power, a man has 600-700 pounds as compared with the 1,500-2,000 pounds of the horse, or the 50-100 pounds of the bird. Mr. Box gives the power of a man, working ten hours per day on a winch, as .072 H. P., on a treadmill as .105 H. P. and on a capstan, .084 H. P. If the hours of labor are reduced from 10 to 4 per day, then in the above cases the power will be increased to .113, .167 and .134 H. P. respectively, thus showing the large increase of power as the time of labor is shortened. Mr. D. K. Clark says that the average man working on a pump, winch, or crane, exerts about .1 H. P. if the day consists of ten hours, but that he can produce four or five times this amount if the time is shortened.

BRIG. GEN. George L. Gillespie, Chief of Engineers, U. S. A., has made an annual report which presents an exceptionally careful and comprehensive record of the operations of the Engineer Department during the last fiscal year. It shows that the extensive projects of fortification authorized by the government have been rapidly advanced, that the work of the corps of engineers, both here at home and in our outlying possessions, has been conducted with diligence and skill of the first order, that our colossal undertakings in river and harbor improvement have been carried forward with unflagging industry and that every task entrusted to the department has received careful attention.

HYDROGRAPHY.

Since January, 1901, "The Deutsche Seewarte" (German Marine Observatory) at Hamburg has published monthly meteorological charts of the North Atlantic Ocean which are destined to be of great use to navigators. The charts are on the Mercator projection divided into areas of 5 degrees on a side. For each area is given the mean surface temperature of the water during the month. Ocean currents are related to these temperatures and air currents (that is, winds) depend upon them also. The probability of storms in each area is expressed on the charts. For example, the probaility for the area between 35 degrees and 40 degrees of west longitude and 45 and 50 degrees of north latitude is, for January, 38 per cent. For the area 40 and 45 degrees longitude and 40 and 45 degrees latitude the probability is 35 per cent. All trans-Atlantic steamers from and to New York traverse these areas. In April the porbabilities of storm for these two areas are about 17 per cent. and in summer the probability is much less.

The charts also show the prevalence of fog in each area, giving the number of foggy hours for each month. On the Grand Banks of Newfoundland the number of foggy hours in January is less than 59, and in the routes chosen by steamers it is less than 47. The number of hours of rain, snow, and hail is also given for each area. The area first named above has, for instance, on the average 203½ hours of rainfall during January. For each area the prevailing winds are marked, both as to direction and velocity. Floating wrecks are noted in the positions where last reported and the extreme limits of icebergs also.

Pilot charts of the same general nature are issued by the Hydrographic Office of the United States, and with the two series at hand, navigators are well equipped for their voyages and at least know what to expect.

HYDROGRAPHIC OFFICE NOTES.

LAKE SUPERIOR—NORTH SHORE—THUNDER BAY—SHOALS IN WESTERN OR INSIDE PASSAGE TO PORT ARTHUR.—Information has been received from the Branch Hydrographic Office, Duluth, dated September 7, 1901, on a report from Mr. George Cosgrave, lightkeeper at Victoria Island, wherein attention is called to three uncharted dangers, two of which are situated in dangerous proximity to the usual course followed by ships using the western or inside passage to Port Arthur, as follows:

A shoal with only 6 feet of water on it, marked 7 fathoms on chart, is located on the bearing N. 26 degrees 30 minutes E. true (N. N. E. mag.), distant 1,500 yards from Victoria light-house.

Two shoal spots on the north side of the next large island to the northward and eastward of Victoria Island, nearly awash at low water, and located on the bearing N. 55 degrees, 30 minutes E. true (N. E. ½ mag.) distant 3½ (4) miles from Victoria light-house.

A shoal spot to the westward of Pie Island and north of Flatland Island and located on the bearing N. 61 degrees 30 minutes W. true (N. W. by W. ⅞ W. mag.), distant 2 2-3 (2 9-10) miles from Pie Island light-house.

LAKE MICHIGAN—GRAND HAVEN APPROACH—DECREASED DEPTH OF WATER.—Information has been received from the Branch Hydrographic Office, Chicago, dated September 30, 1901, that Capt. A. Gallagher of the steamer Indiana, reports a least depth of water of 14 feet on the shoal about 600 feet due west of the entrance of Grand Haven, Mich.

DETROIT RIVER—AMHERSTBURG RANGE—OBSTRUCTION REPORTED NEAR BOIS BLANC ISLAND.—Information has been received from the Branch Hydrographic Office, Cleveland, dated September 23, 1901, that Captain John Nahrstadt, of the steamer Marina, reports under date of September 7, 1901, that while coming out of Detroit river on Amherstburg ranges, drawing 17 feet 9 inches, his ship struck an obstruction abreast of black barrel buoy at south end of Bois Blanc Island, about 60 feet to the westward of the range. The west side of front light lantern being just in line with east side of rear light lantern. The bottom was apparently rocky.

LAKE SUPERIOR—MINNESOTA—GRAND MARIAS HARBOR—BREAKWATER COMPLETED.—With refernce to Notice to Mariners No. 27 (622) of 1899, information has been received through the Branch Hydrographic Office at Duluth that the breakwater at Grand Marias, Minn., projecting from a rocky point at the west side of the entrance in a southeast direction was completed August 13, 1901. The breakwater is 350 feet long. The distance between the outer ends of tne two breakwaters is 500 feet. Apparently no aid to navigation marks the western breakwater.

THE ENGINEER OF THE TWENTIETH CENTURY.

(BY VICTOR C. ALDERSON, DEAN OF ARMOUR INSTITUTE OF TECHNOLOGY, CHICAGO, ILL.)

The twentieth century will be pre-eminently the age of the engineer—the man of applied science. It will be permeated by the scientific spirit. Historically speaking, this scientific spirit has long been in the minds of men, but only within the small reach of the latter part of the nineteenth century has it filtered through to the masses, influenced their daily life, and become an important factor in the industrial world. To realize what inventiveness and ingenuity—the precursors of the scientific spirit—have done, note that in 1810 the cost of ruling 100 reams of paper by hand was $400; the same work can be done now by machinery at a cost of 85 cents. The watch that in 1862 cost $65.41 made by hand can now be made by machinery for $1.10. To print 100 rolls of wall paper by hand would cost $42.00, but with the aid of machinery it would cost only 13 cents.

The next 25 years will show still more marvelous improvements, for the work of the engineer has just begun. Wherever new lands are to be opened, bridges built, railroads constructed, water or sewerage systems installed, there the civil engineer will be needed. Wherever in the broad field of industrial activity new machinery is to be devised, more economical power plants constructed, cheapened processes of manufacture invented, or new applications of electricity suggested, there the mechanical engineer, the chemical engineer, or the electrical engineer will find his special field of activity.

It is pertinent to ask, then, what kind of a man will the twentieth century engineer be? In the first place he will be a cultured man. "By culture I mean," said Charles Dudley Warner, "that fine product of opportunity and scholarship which is to mere knowledge what manners are to the gentleman." In the future this culture will not come from a study of the classics, but from a familiarity with the best literature in the modern languages. While the education of the engineer must come largely from the shop and the laboratory, yet no error can be greater than to suppose that he can divorce himself from books. Herein are the records of those experimenters who, perchance, have tried and failed; likewise the stories of successes; from both the engineer may learn much. Engineering literature in books, in the technical press, in the publications of technical colleges, and in the proceedings of engineering societies is growing apace. As neither the lawyer, the doctor, nor the minister can succeed without a well-selected library, so the engineer cannot hope to succeed without the aid of the published records of the work which other members of his profession have accomplished.

The man who would pretend to succeed without the aid of books is the so-called practical man, the rule of thumb man. But he is rapidly passing away and his place is being taken from the technically trained man—the one who had learned from the shop, the laboratory, the book, the fundamental principles of science and their applications. The industrial ruler of the twentieth century will be the engineering specialist, who will add to sound general scholarship and broad scientific training highly specialized knowledge in some chosen field of work. He will be a practical idealist. He will be so trained that he can correctly use his constructive imagination, can reason accurately and clearly, and through printed records can make use of the work of his predecessors. * * * *

"CHARLESTON AND ITS EXHIBITION."

This is the title of a 32-page pamphlet which has been issued by the Department of Promotion and Publicity of the South Carolina Interstate and West Indian Exposition, to be held at Charleston, S. C., December 1, 1901, to June 1, 1902. This pamphlet is illustrated with ten maps and diagrams and is written by Alexander D. Anderson. It gives an historical note note relative to the exposition and the city of Charleston, the advantages of the city as a seaport, its harbor, tributary country, railways, cotton belt, pine belt, coal and iron, corn belt, phosphates, rice fields, tea culture, silk culture, manufactures, etc. This exposition will show to the South and our West Indian possessions the advantages of Charleston as a seaport and commercial center. It is stated that many manufacturers are availing themselves of the opportunity of securing space at the exposition to show their goods.

STEAMER RICHELIEU'S HULL ONLY SLIGHTLY DAMAGED.

The steamer Richelieu entered the government dry dock at Kingston Monday. From appearances, it is judged that the Richelieu went down bow first and sunk in about fifteen feet of mud, as marks on her would indicate. Exactly thirteen days transpired from the time the Donnelly Company got the first chain on the steamer until she entered the dock; within that time storms were so severe that work could not be carried on for two days.

There are only two places on the hull that will require patching, at a cost of $100 or thereabouts. Selby & Youlden repaired the hull. Her upper works are badly damaged and will have to be replaced, at a cost of from $2,500 to $3,000. The machinery will need cleaning to put it in workable shape. Carpenters will be put to work and it is expected that in a couple of weeks the steamer will be fully restored. The Donnelly Company has done good work, and John Donnelly in charge of the wreckers, is receiving the warmest congratulations of his friends.

The Richelieu sunk in 65 feet of water at the foot of Lake Ontario in a very exposed place. The wrecking company were delayed eight days by rough weather. This steamer was chartered by The Bay of Quinte Steamboat Co. and sunk while bound from Picton to Kingston with 65 tons of tomatoes on deck and five large cases of silverware. No insurance on hull or cargo.

LAKE SUPERIOR LEVELS.

The stage of Lake Superior in October, as recorded by the U. S. gauge at Houghton, Mich., was 1.31 feet above low water datum. This is slightly lower than for the preceding month, although the fall was only 0.01 foot. At Duluth the recorded fall was a little more, it being 0.07 foot. The normal fall from September to October is 0.04. The lake has evidently begun its annual recession, and may be expected to fall gradually from now on for several months. It is safe to say, however, that there will be a good stage for vessels during the remainder of this season. The rainfall at Duluth for October was 2.01 inches, as reported by U. S. Forecast Officer Richardson, showing a deficiency of 0.63 inch from the normal rainfall. This variation is not great.

The October stage of the lake was 0.48 foot lower than in October a year ago, but it is 0.51 higher than the average October stage for a period of 26 years.—As recorded by J. H. Darling, U. S. Assistant Engineer.

HIGHEST MOUNTAIN IN NORTH AMERICA.

The "National Geographic Magazine" for August, 1901, contains an article with an accompanying sketch map of Mount McKinley, Alaska. With an altitude of 20,464 feet, this is the highest mountain in North America. It forms the central point of an enormous and surpassingly grand mountain mass situated at the headwaters of the Sushitna and Kuskokwim rivers. The range is a portion of the Cordilleran system of North America, which follows in a general way the contour of the west coast of the continent through Alaska and down the Alaskan Peninsula. The mountain group is extremely rugged, and is covered with snow and ice to within 2,000 or 2,500 feet of sea level. The Chulitna river, the chief source of the Sushitna river, at the base of the mountain, has an altitude of only about 500 feet, showing that in the 30 miles between the summit of the mountain and the river there is a descent of 20,000 feet.

Mount McKinley was known to the Russian settlers nearly 100 years ago, and was called "Bulshaia" (big) by them. The first American to see the mountain and publish an account of it was a prospector named W. A. Dickey (in 1897), who gave it its present name. Mr. Robert Muldrow, the writer of the magazine article referred to, made the only measurements of height ever obtained of this mountain in the summer of 1898 while exploring the Sushitna river with a party from the United States Geological Survey. It is situated in latitude 63 degrees 5 minutes north, longitude 151 degrees west.

According to the Canadian Engineer the Canadian Pacific is to build a new steamship for their Empress line, acquire fourteen steamers of the Canadian Pacific Navigation Co., build a new boat for the Vancouver-Victoria route and a new upper lake boat of 1,800 tons. Bonds for £480,000 will be issued to defray the cost.

NOTES.

The Sprague Electric Co. recently held its annual meeting and re-elected the following officers for the ensuing year: John Markle, president; Edward C. Platt, first vice-president; Allen C. Bakewell, second vice-president, Harry R. Swartz, secretary and treasurer.

THE torpedo boat Chauncey, built for the United States Government by Neafie & Levy Co., of Philadelphia, was launched October 26. Mrs. Mae Chauncey Stevens Todd, great-granddaughter of Commodore Chauncey, was sponsor. The Chauncey is a sister ship of the Bainbridge, launched some time ago, and the Barry, now being built.

THE following is the program for naval increase recommended this year by Navy Board on Construction: Battleships, 4; armed cruisers, 3; gunboats, 6; destroyers, 2; gunboats of 600 tons, 6; light draught gunboats of 200 tons, 10; colliers, 3; repair ship, 1; transport, 1. It is believed that this program will be recommended to Congress by Secretary Long

THE Lidgerwood Manufacturing Co., of New York City, has received four gold medals, one silver medal and one bronze medal for their various exhibits at the Pan-American Expositon. All of the awards were the highest given in each particular class, and include a gold medal for mining engines and general hoisting engines, a gold medal for electric battleship hoist, such as the company furnished the United States steamship Kearsage and United States steamship Kentucky, and a gold medal for the Lidgerwood-Miller marine cableway, for coaling vessels at sea. Also a silver medal for elctrical hoisting engines and a bronze medal for the new reversible drum swinging gear, which is a feature of the latest type of Lidgerwood derrick engines.

THE Consolidated Schools have purchased the plant of the United Correspondence Schools, which include that school and the Institute for Home Sudy of Engineering, and the Correspondence School of Technology. The work will be continued as heretofore at 156 Fifth avenue, New York city. The new concern has strong backing and will be in a position to do business on a large and liberal scale. The work of schools of this kind is no longer experimental and many responsible positions are now filled by men who have been educated in this manner. The method of instruction is such that no time is lost from work and the student can devote exactly the time he wishes to pursue his studies. The schools will be glad to furnish further particulars to all who desire to improve their condition by education.

IN The World's Work for November, Prof. Ira N. Hollis of Harvard, a graduate of the Naval Academy, has a very appreciative and sympathetic notice of Rear Admiral Sampson, in which, with equal skill and good judgment, he steers entirely clear of the controversy over the blockade of Cienfuegos and Santiago. He refers to the admiral's fredom from corps prejudice, as shown in his yielding to army officers, when he was a member of the Board of Fortifications and Other Defenses, to such an extent as to bring upon him the criticism of naval officers. We are told the admiral's 13 years of service at the naval academy had a value that cannot be overestimated. During it a majority of the navy officers graduating between 1868 and 1893 came under his influence. He was described by a bureau officer as the most satisfactory and clear-headed man I ever did business with. He has "always performed every duty assigned to him with conspicuous ability and with singular modesty. He was with it all a most approachable and fair-minded officer—never enthusisastic, never demonstrative, but always kind and considerate in his dealings with others. He bore an enviable reputation, as he had the respect and affection of those who served under him. If a vote of the navy had been taken to determine the officer most trusted by the entire service it would have been Sampson by a great majority." But for the positive orders of the department forbidding the exposure of ships to heavy shore batteries, Sampson would have gone into Havana harbor, as Prof. Hollis thinks, and the war would have been ended in one week, "thus sparing us much bloodshed and disease." "No man," as this writer says, "ever represented a better type of American citizen. He has the calmness, modesty and self-poise most characteristic of Lee, Grant, Farragut and other great men who have borne arms for the nation, and no man could exhibit in his daily life a more unassuming and democratic conduct."

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from 80 to 365 days and nights without attention, and can be seen a distance of six miles. . . . . .

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NOTICE TO MARINERS.

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT-HOUSE INSPECTOR, NINTH DISTRICT,
CHICAGO, Ill., November 4th, 1901.

VIENNA SHOAL BUOY.—Notice is hereby given that the red and black second-class can buoy, marking the northwest point of Vienna Shoal, northerly end of Lake Michigan, is adrift. It will be replaced as early as practicable.

ELEVEN FOOT SHOAL LIGHT-VESSEL, No. 60.—Notice is hereby given that Light-Vessel No. 60, on Eleven Foot Shoal, Green Bay, Michigan, will leave her station for the winter on December 5th, 1901.

By order of the Light-House Board:

F. M. SYMONDS, Commander, U. S. N.
Inspector Ninth Light-House District.

UNITED STATES OF AMERICA—NORTHERN LAKES AND RIVERS—MICHIGAN.

TREASURY DEPARTMENT,
OFFICE OF THE LIGHT-HOUSE BOARD,
WASHINGTON, October 31, 1901.

LAKE MICHIGAN.

LIGHT VESSELS.—Notice is hereby given that, on or about November 23, 1901, the following-named light vessels will be withdrawn from their respective stations for the winter, and each of their stations will be marked by a red, third-class spar buoy.

WHITE SHOAL LIGHT VESSEL, No. 56.—Off the northeasterly side of White Shoal, northeasterly end of Lake Michigan

GRAYS REEF LIGHT-VESSEL, No. 57.—Off the easterly end of Grays Reef, northeasterly end of Lake Michigan. (L. H. B. Notice to Mariners No. 50 of 1901, and Bulletin No. 119, par. 109.)

LANSING SHOAL LIGHT-VESSEL, No. 55.—To the southward of Lansing Shoal, northerly part of Lake Michigan and about 4⅝ miles N. 14 degrees E. (N. by E. ¼ E.) from Squaw Island light-house.

These vessels are withdrawn earlier than usual in order to insure their delivery at the shipyard where they are to be repaired, before the formation of ice prevents.

By Order of the Light-House Board:

N. H. FARQUHAR,
Rear-Admiral, U. S. Navy, Chairman.

LIGHT-HOUSE ESTABLISHMENT,
OFFICE OF THE LIGHT-HOUSE INSPECTOR, TENTH DISTRICT.
BUFFALO, New York, November 1, 1901.

The Light-House Tender Haze will leave Buffalo, N. Y., about November 15th, 1901, for the purpose of taking up the buoys in Lake Erie and the Detroit river. All important buoys will be replaced with winter buoys.

The buoys at Dunkirk, N. Y., will be taken up about November 15th.

The buoys at Erie, Pa., will be taken up about November 16th.

Those at Sandusky, O., and the islands, about November 20th.

Those in Maumee bay about November 25th.

Those in the Detroit river (excepting the gas-buoys) about November 30th.

The gas-buoys and light-vessels in the Detroit river will be left in position as late as circumstances will permit, probably until about December 19th.

The positon of the Bar Point Light-Vessel after its removal, will be marked by a black spar-buoy.

Waverly Shoal buoy and the Niagara river buoys will be kept in positon as late as the season will allow.

The St. Lawrence river and Lake Ontario buoys will also be left in place as late as possible.

By authority of the Light-House Board.

A. DUNLAP, Commander, U. S. N.
Inspector Tenth Light-House District.

DOMINION OF CANADA—ONTARIO.

PELEE PASSAGE TELEGRAPH CABLE RELAID.—The cable which formerly connected Pelee Island, Lake Erie, with the mainland, by way of Pelee Point and the Dummy light-house, has been taken up, and another cable was in August, 1901, laid in a straight line from a landing place on the north shore, about midway between Leamington light-house and Bells Point, 2,600 feet N. 76 degrees W. true from the light-house, to a landing on the north shore of Pelee Island, distant 8,600 feet, S. 365 degrees W. true, from the light-house, and distant 13 1-3 nautical miles S. 8 degrees 4 minutes W. true from the starting point.

Mariners are warned not to anchor in the vicinity of this cable.

From information furnished to the Department of Public Works of Canada by Mr. John F. Richadson, government telegraph service, who laid the cable.

RE-ESTABLISHMENT OF SOUTHEAST SHOAL LIGHT-VESSEL.—The following further particulars, respecting the steamer Kewaunee, which has been stationed to replace the Smith and Post as a light vessel at Southeast shoal Pelee Passage, Lake Erie, as referred to in notice to mariners No. 84 of 1001, have been received from the U. S. Hydrographic office, and from the treasurer of the Lake Carriers' Association.

The Kewaunee is 107 feet long, two masts, schooner rigged, hull to rail painted red, upper works white, masts spar color.

The fixed white light, shown from three 5th order lens lanterns, visible about 12 (14) miles, are shown at a height of 50 feet above water.

During thick or foggy weather an 8-inch modoc whistle sounds blasts of 20 seconds' duration, every 2 minutes.

WESTERN PASSAGE INTO THUNDER BAY—SHOALS.—Mr. George Cosgrave, lightkeeper at Victoria Island Lake Superior, has reported to the United States Branch Hydrographic office, Duluth, the existence of three uncharted dangerous proximity to the usual course followed by ships, the Islands and the mainland, two of which are situated in dangeraus proximity to the usual course followed by ships, as follows:

1. A shoal with only 6 feet of water on it, marked 7 fathoms on chart, is located N. N. E. (N. 26 degrees 30 minutes E. true), distant 1,500 yards from Victoria Island light-house.

2. Two shoal spots on the north side of the next large island to the northward and eastward of Victoria Island, nearly awash at low awter, and located N. E. ½ E. (N. 55 degrees 30 minutes E. true), distant 3½ (4) miles from Victoria Island light-house.

3. A shoal spot to the westward of Pie Island and north of Flatland Island and located N. W. by W. ⅛ W.

This notice affects Admiralty charts Nos. 320 and 321; and U. S. H. O. publications No. 108, 1896, pages 31 and 32, and No. 108a, 1900, pages 70 and 71.

UNITED STATES OF AMERICA—GREAT LAKES.

The Hydrographer of the United States Navy publishes the following:

LAKE SUPERIOR.

DULUTH HARBOR BASIN—POST LIGHT NO. 1 CARRIED AWAY.—Duluth harbor basin post light No. 1 has been carried away and no light will be exhibited from this position until further notice.

This notice affects Admiralty charts Nos. 3,017 and 320: and U. S. Hydrographic office publication No. 108, 1896, page 12; and part 14 of notice to mariners No. 46 of 1901.

GRAND MARIAS HARBOR—BREAKWATER COMPLETED.—The breakwater at Grand Marias, Minn., projecting from a rocky point at the west side of the entrance in a southeast direction was completed on the 31st August, 1901.

The breakwater is 350 feet long. The distance between the outer ends of the two breakwaters is 500 feet. Apparently no aid to navigation marks the western breakwater.

This notice affects Admiralty chart No. 320; and U. S. Hydrographic Office publication No. 108, 1896, page 6.

LAKE HURON.

WRECK OF THE BALTIMORE—LIGHT DISCONTINUED.—With reference to part 3 of notice to mariners, No. 53 of 1901, and part 3 of notice of mariners, No. 79 of 1901, information has been received that the light on the wreck of the steamer Baltimore in the approach to Au Sable has been discontinued.

This notice affects Admiralty charts Nos. 519 and 678; and U. S. Hydrographic Office publication No. 108, 1896, page 123.

ST. CLAIR RIVER.

SQUIRREL SHOAL BUOY DISCONTINUED AND OBSTRUCTION BUOY ESTABLISHED.—Squirrel Shoal Buoy, No. 4, a red 25-foot spar, marking the western edge of the northern end of a shoal near mid-channel, abreast of the center of Squirrel Island, was discontinued on the 4th August, 1901, the shoal having been dredged away.

A spar buoy, painted red and black in horizontal stripes, was established on the 5th August, 1901, in 13 feet water, to mark the remains of the crib at the former site of Russel Island light, No. 12. The crib has 8 feet water over it and vessels are warned of the danger of passing over this shoal between this and Russel Island buoy.

DETROIT RIVER.

AMHERSTBURG—REPORTED OBSTRUCTIONS.—Under date 3rd October, 1901, Captain John Nahrstadt, of the steamer Marina reports as follows: "While coming down Detroit river today about 2 p. m., struck an obstruction about 175 feet east of black stake near upper end of Bois Blanc Island, and abreast of Mullen's coal wharf, Amherstburg. I think it must be a rock dropped or shoved there by a dredge as we were drawing only 17 feet and I have passed over that spot several times drawing more water. According to the water signals there were 18 feet 3 inches at the crossing."

Also, under date 23rd September, 1901, the same officer reports that while coming out of Detroit river on Amherstburg ranges, drawing 17 feet 9 inches, his ship struck an obstruction abreast of black barrel buoy at south end of Bois Blanc Island, about 60 feet to the westward of the range.

The west side of front light lantern being just in line with east side of rear light lantern. The bottom was apparently rocky.

This notice affects Admiralty charts No. 330, 332 and 678; and U. S. Hydrographic Office publication No. 108, 1896, page 143.

BOIS BLANC ISLAND—BUOY CARRIED AWAY WILL NOT BE REPLACED.—Notice has been received from the Branch Hydrographic Office, Clevland, dated 23rd September, 1901, that the spar buoy, black, placed in Detroit river about 1 mile south of Bois Blanc Island, abreast red barrel buoy, has been carried away and will not be replaced.

LAKE ERIE.

CONNEAUT HARBOR—BREAKWATER COMPLETED—TEMPORARY LIGHT DISCONTINUED.—Conneaut breakwater was finished by the contractor on the 4th October, 1901, and the temporary light on the end of the breakwater was to be discontinued after that date.

The establishment of a permanent light on this breakwater is under consideration by the Light-House Board.

LAKE ONTARIO.

STONY POINT LIGHT STATION—INCREASED HEIGHT AND CHANGE IN COLOR OF TOWER.—On or about 31st October, 1901, the work of increasing the height of the tower on Stony Point, esatern end of Lake Ontario, about 20 feet will be completed, and the height of the focal plane of the light will then be 58 in place of 38 feet above mean lake level, as at present.

At the same time the color of the tower will be changed from grav to white.

The exhibition of the light will be interrupted.

This notice affects Admiralty charts Nos. 1152 and 797; and U. S. Hydrographic Office publication No. 108, 1896, page 189.

F. GOURDEAU,
Deputy Minister of Marine and Fisheries.

Department of Marine and Fisheries, Ottawa, Canada, 18th October, 1901.

NOTES.

REAR-ADMIRAL Crowninshield, Chief of the Bureau of Navigation, will be succeeded by Rear-Admiral H. C. Taylor in December. The Olympia will go into commission December 16, and Admiral Crowninshield will use that vessel as a flag-ship on the European station.

A SOMEWHAT peculiar item reaches us from Ottawa stating that an important patent connected with St. Lawrence navigation has been carried through the patent branch, and the patent submitted to Minister of Public Works Tarte, by whom it will be laid before the cabinet. The patent is designed to do away with lighthouses, buoys and the entire paraphernalia for night navigation between Montreal and Quebec, and substitute a submerged electric system. The system will be applicable to all inland navigable waters. The idea is to sink an electric cable in the center of the navigable channels, with power transmitted from a power house at Montreal. Lines of colored lights will appear at or above the water level, each side of the channel, the lights on one side being of a different color from those on the other side. They will, it is said, be supported by cork floats.

IT is reported that at a meeting of the directors of the Austrian Lloyd line the question of new vessels for the fleet received consideration. The addition of three large steamers is shortly expected, and it is intended to proceed with the construction of four others, the cost of which is to be defrayed out of the fresh issue of preference capital. Notwithstanding this increase the directors believe that they will be compelled to at once enter into negotiations with English shipping companies with a view to the acquisition of further vessels to meet the requirements of the traffic. The company considers that serious competition has been averted by the failure of the German Levant line to absorb the undertaking of the Ægean Shipping Company (Courtgi and Co.), although it is thought that rivalry in the Adriatic may shortly be expected to take place. The question of establishing a new line to South Africa, which has received attention in the past, is not to be proceeded with at the present time.

SOME of the German shipping companies make a practice of abstaining from publishing in their annual balance-sheets any statement as to the amount written off for depreciation of the steamers, this being apparently due, remarks the Financial Times, to a desire to withhold information from competitive lines. The practice, which is followed by the Hamburg South American Company, the German Australian Company, and the German Levant Line, has occasionally given rise to severe critcism in German financial circles, and a shareholder of the Australian Steamship Company some time ago brought an action against the company for amplification of the balance-sheet in the sense indicated. The register judge decided in favor of the applicant, and this decision was confirmed by the Land Gericht, but the Oberland Gericht has just reversed this ruling nd held that the balance-sheet was not deficient. As no further appeal is possible, the law as now interpreted legalizes the positon taken up by the three companies, whose action is not regarded by the Berlin Bourse with any favor.

GREAT BRITAIN with her colonies owns nearly one-half of the total tonnage belonging to the marine of forty nations, or 14,000,000 tons out of a total of 29,000,000 tons. This is divided among 28,350 vessels, of which 10,838 sail under the British flag. The English sailing fleet is sensibly decreasing, and represents, with 2,000,000 tons, only about one-third of the sailing vessels of the world. On the other hand, Great Britain shows progress in her fleet of merchant steamers, with a tonnage of 12,000,000, all other countries giving a total of only 10,000,000 tons. With regard to dimensions, it is stated that England has 1,600 steamers with a tonnage of over 3,000 tons; Germany, 127; the United States, 120; France, 60. For vessels of exceptional dimensions—exceeding 10,000 tons—England really has the first rank, with 24 of these immense transports; Germany has 21.

Is there anything in luck? The facts point to the danger of naming any British warship after a snake or a stinging thing of any kind. Within the last six weeks the Viper and the Cobra, both of them engined on the turbine principle, have been wrecked. The destroyer lost during the recent manœuvres was the fourth Viper that has been wrecked out of six Vipers that have hoisted the King's penant since the Britsh had a navy. A Viper was wrecked in 1780. A Vipere, a French prize, commissioned into the British service was wrecked in 1793. A third was wrecked in 1797, and the fourth was wrecked last month off Guernsey. The Serpent wrecked 11 years ago, was the fourth British man-of-war of that name to meet that fate. Two Snakes have been lost, one in 1781, and one in 1847. Three Lizards have been wrecked; one in 1515, one in 1696 and one in 1843. An Adder was lost in 1806, and an Alligator in 1782, a Crocodile in 1784 and a Rattlesnake in 1781. Two Dragons and a Basilisk may also be added to the list. The conclusion is tolerably clear that the reptile class is unlucky. Of the poor fellows who lost their lives on the Cobra no fewer than half had been wrecked in the Viper the month before.—Arnold White, in Philadelphia Public Ledger.

Shipping—Demurrage.—Where a charter required the ship to receive cargo "from the charterer's shippers," and provided that lay days should not commence until she was "in evry respect ready to load or discharge," such days for loading do not commence to count until she is not only ready to load, but is at the berth where the shipper's cargo is lying, where she is delayed in reaching such berth by the rules of the port, and without fault of the charterer. Bacon vs. Ennis, 110 Fed. Rep. (U. S.) 404.

Power of Congress—Crews of Foreign Ships.—A foreign vessel is a part of the territory of the country to which she belongs, and, although she is subject to the laws of the United States in certain respects while in our ports, Congress has no power to control her domestic affairs, such as the terms on which she ships her crew, or the time or manner of the payment of their wages, which are matters that properly concern the ship and crew alone, subject to the law of her flag. The Eudora, 110 Fed. Rep. (U. S.) 430.

TREASURY DECISIONS.

ISSUE AND SURRENDER OF MARINE DOCUMENTS—QUARTERLY ACCOUNTS OF TONNAGE.

TREASURY DEPARTMENT, BUREAU OF NAVIGATION,
WASHINGTON, D. C., Ocober 24, 1901.

To collectors of customs and others:

ISSUE OF MARINE DOCUMENTS.—The serial numbers on marine documents must commence anew with No. 1 on July 1 of each year. Separate series of serial numbers will be used as follows:

(a) For registers (not generally used on northern frontiers and western rivers).
(b) For enrollments.
(c) For licenses issuing to vessels not enrolled (not used on northern frontiers).
(d) For license issuing to enrolled vessels.
(e) For licenses issuing to enrolled yachts.
(f) For licenses issuing to yachts not enrolled.

Every register, enrollment, and license to a vessel not enrolled should contain the date and place of original building and a citation of the previous marine document. This citation should be in the following form:

"P. E. (insert P. R., T. R., P. E., T. E., or Lic.), No. 80, issued at Bath, June 1, 1895, property changed." (Insert the cause of surrender.) The year and day of the month should be in figures in the citation, and the name of the district should be omitted.

SURRENDER OF MARINE DOCUMENTS.—Every marine document surrendered should be so indorsed as to show the date, place, and cause of surrender; and on the next line below, the number and description of the new marine paper issuing. Copies of lost marine papers should be indorsed in the same manner as originals, with the addition of the words, "Copy; original lost."

The monthly abstract (Cat. No. 340), together with all marine documents surrendered elsewhere than at the port of issue, or, if there be no transactions (Cat. No. 333), must be sent promptly at the end of each month. Neither of these abstracts should be sent in the package with the quarterly accounts of tonnage.

QUARTERLY ACCOUNTS OF TONNAGE.—The quarterly accounts should embrace:

1. A transmitting letter (Cat. No. 334), and abstracts for each division mentioned in Catalogue No. 334, under which there have been transactions during the quarter, and Catalogue No. 332, when there is an outstanding balance but no transactions during the quarter.

2. Separate abstracts (Cat. No. 325) of vessels built, lost, abandoned, sold foreign, wrecked and repaired (foreign vessels), and an abstract of changes of home port, rig, tonnage, dimensions, etc., when there have been transactions under these titles during the quarter.

3. Duplicates of all registers (Cat. No. 335), and enrollments issued (not to have paper seals). The existing department regulations do not require that duplicates of license issuing shall be sent.

4. All registers, enrollments, and license surrendered during the quarter, together with indorsed copies of lost documents.

The complete accounts of tonnage for each quarter should be forwarded in one package (unless otherwise instructed), with the transmitting letter (Cat. No. 334) on top. The duplicate registers should be arranged in the order of their serial numbers without regard to the abstracts to which they belong, the smallest number first, and the duplicate enrollments in a similar manner. The surrendered registers, enrollments, and licenses should, however, be arranged with reference to the abstracts to which they belong and in the order in which they are surrendered on the abstracts.

E. T. CHAMBERLAIN, Commissioner.

Approved: H. A. TAYLOR, Assistant Secretary.

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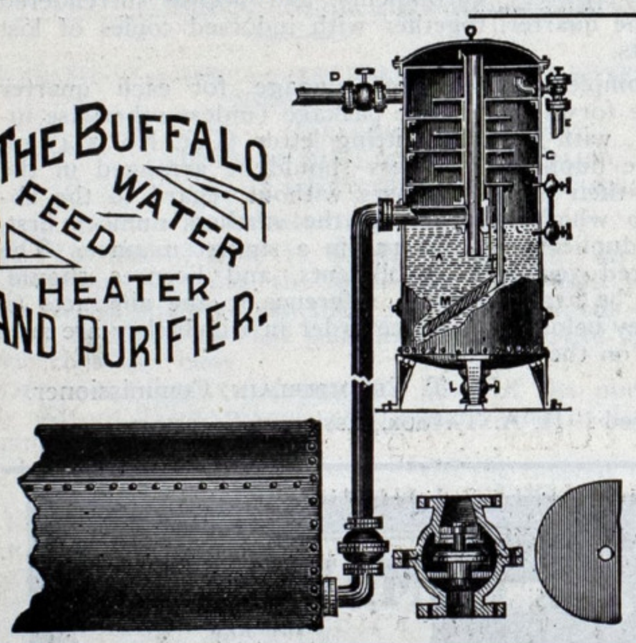

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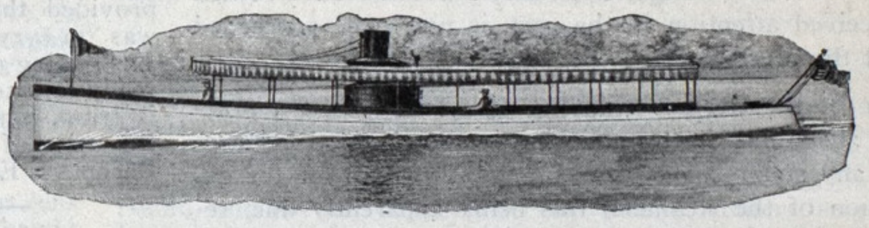

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EXPORTS OF THE UNITED STATES.

The interest felt by the great manufacturing and exporting countries of the world in the growth of exports from the United States and their invasion of new fields is illustrated by a recent official report of the British Commercial Agent at Chicago, in which he discusses the export trade of the United States for the last fiscal year. A copy of this report has just reached the Treasury Bureau of Statistics. "The trade returns," says Mr. E. Seymour Bell, the author of the report, "show evidence of a considerable increase in exports to Mexico, Central and South America and the West Indies. There are many indications that an attempt is about to be made to capture the trade of South America. Shipping facilities are being improved, though slowly, and every effort is being made to draw more close the commercial relations of the two American continents. Particular attention is being paid to the needs of buyers and the conditions of trade are being closely studied. Everything that can give satisfaction to buyers is being done. Close attention is given to packing of goods, and price lists are circulated in Spanish with, in many cases, prices quoted in the current coin of the country per 100 kilos. The advantage of this to the customers cannot be leading newspapers of Chicago and New York, in which the statistics of the export trade for the last fiscal year are presented, and especially those showing the growth of exports to South America and those showing the establishoverestimated." The report then quotes extracts from ment of new steamship lines to operate along the Pacific coast of North and South America, and adds: "The States on the Pacific Coast have chiefly benefited by the increase of trade with South America. The new steamships trading between Pacific ports of South America and Pacific ports of the United States, due perhaps to the new interests acquired in the Pacific Ocean, greatly facilitate the trade between the several countries. The development of railways in Venezuela, Colombia, and Argentina, often with American capital, has also greatly aided the expansion. In all probability this increase will continue, especially if the plans of certain American investors are carried out. The whole of South America only takes about three per cent. of the total exports of the United States, but they are increasing. The increases in trade with Chile is considered particularly gratifying, as it was unexpected. Chile is recognized as one of the most prosperous and most progressive countries in South America, and it is expected to have a great future. The desire to increase trade with South America is very keen, and there is probably no part of the world where greater efforts are being made to obtain a supremacy. Not only has the trade been very small, but in most cases the South American Republics have been selling to the United States more than they have been buying. Particular attention is being called to the trade in cotton goods. That the United States should have only sold in 1900 to Mexico, Central and South America cotton goods of the value of $3,605,269, while the United Kingdom sold to these same countries similar goods of the value of $38,007,564 causes amazement, taking into consideration the fact that the United States sold to the United Kingdom raw cotton worth about $100,000,000. I merely mention this in order to indicate an important line of goods where severe competition may be expected."

The report also discusses the growth of the export trade from the United States to Japan which, it says, "is becoming an important country for American goods." The report then quotes tables showing the total imports of Japan and the total from the United States and United Kingdom, respectively, at quinquennial periods from 1881. It shows that the imports into Japan from the United States has risen from 1,781,108 yen in 1881 to 62,761,196 yen in 1900; and that the imports into Japan from the United Kingdom have only grown from 16,364,740 yen in 1881 to 71,638,219 yen in 1900. Thus the United States exports to Japan were in 1900 more than 35 times as large as in 1881, while those of the United Kingdom to Japan were less than 5 times as large as in 1881.

Commenting upon this phenomenal growth in the exports from the United States, Mr. Commercial Agent Bell says: "If we make a comparison between the quantities of certain merchandise exported this year with those exported the year previous many a useful lesson may be learned. After reviewing the growth of exports of manufactures in leading articles, he says: "That the United Kingdom makes such a poor showing in competition with the United States is due entirely to the use of more perfect and more economical machinery in this country. By improvements in methods of manufacture and close attention to the wants of buyers, there should be no difficulty in competing with the United States. As regards heavy steel goods such as rails, structural material, etc., the abundance and cheapness of raw material in the United States makes competition more difficult. For finished articles such as machinery, etc., it is more a question of economy of manufacture and design than in the first cost of material. In this country of high wages and in many cases long railway carriage, the only way to be able to compete with other countries is to cut down expenses as much as possible by the use of labor-saving machinery and general economy. If this is possible in America it ought to be equally possible in other competing countries."

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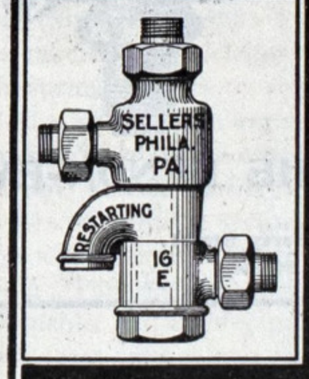

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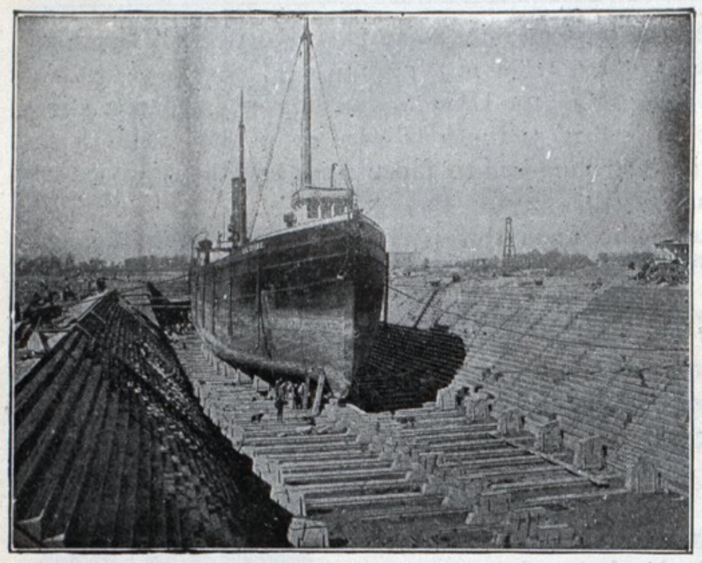

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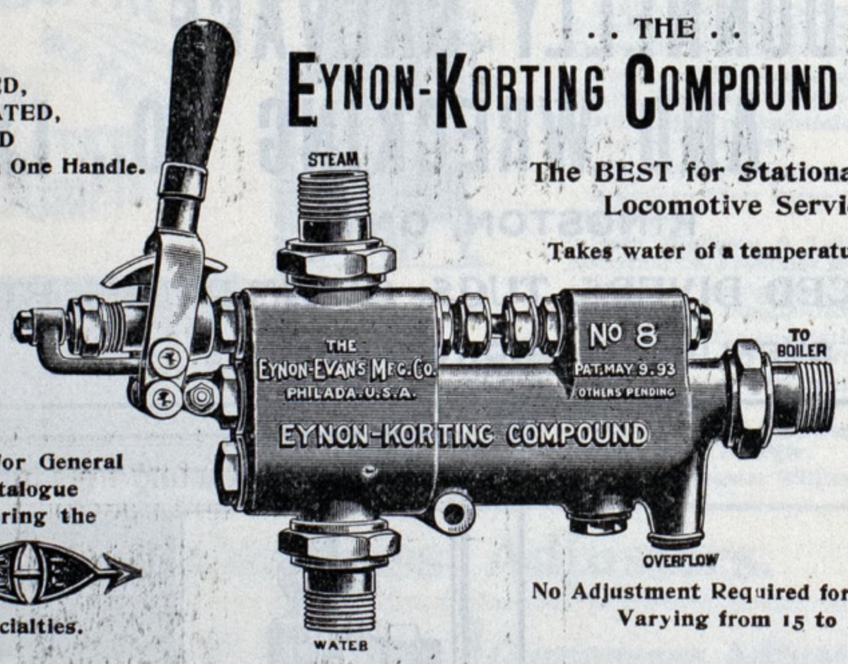

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W. S. JENKS, President. O. L. JENKS, Vice Pres. and Treas. A. M. CARPENTER, Sec. and Gen'l Mgr

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